(19) World Intellectual Property Organization International Bureau





(43) International Publication Date 14 August 2003 (14.08.2003)

PCT

(10) International Publication Number WO 03/066374 A3

(51) International Patent Classification7: F21V 29/00

(21) International Application Number: PCT/US03/03464

(22) International Filing Date: 5 February 2003 (05.02.2003)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data: 60/354,716 6 February 2002 (06.02.2002) US

(71) Applicant (for all designated States except US): SCHEFENACKER VISION SYSTEMS USA INC. [US/US]; 1855 Busha Highway, Marysville, MI 48040 (US).

(72) Inventors; and

(75) Inventors/Applicants (for US only): STEEN, Ronald, L.

[US/US]; 7828 Brookpines Drive, Clarkston, MI 48348 (US). LUCAS, Kile, P. [US/US]; Apt. 103, 350 N. Rochester Road, Clawson, MI 48017 (US). DYMOND, Richard, A. [US/US]; 5333 Bridges Cove, Metamora, MI 48455 (US). McKITTRICK, Charles, D. [US/US]; Apt. A3, 1903 North Main Street, Royal Oak, MI 48073 (US).

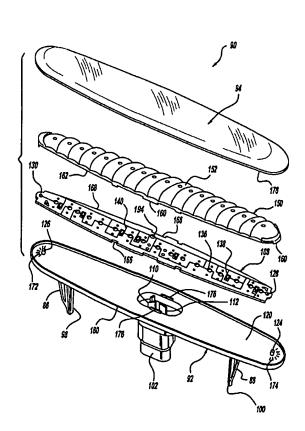
(74) Agent: MILLER, John, A.; Warn, Burgess & Hoffmann, P.C., P.O. Box 70098, Rochester Hills, MI 48307 (US).

(81) Designated States (national): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(84) Designated States (regional): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW),

[Continued on next page]

(54) Title: CENTER HIGH MOUNTED STOP LAMP INCLUDING LEDS AND TIR LENS



(57) Abstract: A center high mounted stop lamp (12) including a plurality of LEDs (34) mounted on a printed circuit board (30). TIR lenses (40) are employed to focus the light from the LEDs (34) to give an even lighting appearance. The TIR lenses (40) include a prism (44) for directing the light in a desired direction. The circuit board (30) and lenses (40) are mounted in a housing (18) so that each LED (34) includes a separate lens (40) configured relative thereto to provide the desired collection and reflectance of the light. The housing (18) includes a plurality of posts (70) that extend through openings (48, 50) in the circuit board (30) and the lenses (40) to align the LEDs (34) to the lenses (40) relative to the housing (18).

WO 03/066374 A3

Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Declarations under Rule 4.17:

— as to applicant's entitlement to apply for and be granted a patent (Rule 4.17(ii)) for the following designations AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VC, VN, YU, ZA, ZM, ZW, ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB,

- GR, HU, IE, IT, LU, MC, NL, PT, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG)
- as to the applicant's entitlement to claim the priority of the earlier application (Rule 4.17(iii)) for all designations
- of inventorship (Rule 4.17(iv)) for US only

Published:

- with international search report
- before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments
- (88) Date of publication of the international search report: 6 November 2003

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

INTERNATIONAL SEARCH REPORT

International application No.

PCT/US03/03464 CLASSIFICATION OF SUBJECT MATTER A. IPC(7) : F21V 29/00 US CL 362/503,541,545,554,559,249,294,800 According to International Patent Classification (IPC) or to both national classification and IPC FIELDS SEARCHED Minimum documentation searched (classification system followed by classification symbols) U.S.: F21V 29/00 Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched Electronic data base consulted during the international search (name of data base and, where practicable, search terms used) DOCUMENTS CONSIDERED TO BE RELEVANT C. Category * Relevant to claim No. Citation of document, with indication, where appropriate, of the relevant passages 1-6,8,9,24,34,47 X US 5,632,551 A(RONEY et al) 27 May 1997 (27.05.1997), column 2, lines 45-65. Y 7,10-23,25-33,35-46,48-53 Further documents are listed in the continuation of Box C. See patent family annex. Special categories of cited documents: later document published after the international filing date or priority date and not in conflict with the application but cited to understand the document defining the general state of the art which is not considered to be principle or theory underlying the invention of particular relevance "X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step earlier application or patent published on or after the international filing date when the document is taken alone "L" document which may throw doubts on priority claim(s) or which is clied to establish the publication date of another cluston or other special reason (as document of particular relevance; the claimed invention cannot be specified) considered to involve an inventive step when the document is combined with one or more other such documents, such combination document referring to an oral disclosure, use, exhibition or other means being obvious to a person skilled in the art document published prior to the international filing date but later than the document member of the same patent family priority date claimed Date of the actual completion of the international search Date of mailing of the international search report 05 SEP 2003 13 July 2003 (13.07.2003) Name and mailing address of the ISA/US Authorized officer Mail Stop PCT, Attn: ISA/US Sandra O'Shea Commissioner for Patents P.O. Box 1450 Alexandria, Virginia 22313-1450 Telephone No. (703) 308-0956

Form PCT/ISA/210 (second sheet) (July 1998)

Facsimile No. (703)305-3230